

angle, thus presenting an intermediate state between *foetida* and *grænlandica*.

Now, as the cranium is missing in our subfossil skeleton, there will always be some uncertainty in the determination of the species; but I think there are still some hints of systematic value which refer the bones to *Phoca grænlandica*. So far as I can see, the pelvis, as compared with the tibia, is shorter in *caspica* than in *grænlandica* as well as in the subfossil skeleton *, and in the former the metatarsals and the phalanges digitorum are a little thinner and distally more narrowed †. These differences indeed are slight, but as they are consistent with the previous occurrences of *Phoca grænlandica* in our glacial deposits, in accordance with them we may determine our subfossil bones as belonging to the Greenland seal. Nevertheless these bones justify us in drawing attention to the fact that *Phoca caspica* is more nearly allied to *Phoca grænlandica* than to any other species.

XXXVI.—*Descriptions of new Species of the Genus*
Lycænesthes. By A. G. BUTLER, Ph.D.

WHILST working out the Lycænidæ of the genus *Lycænesthes* I have come across several species which have been confounded with known forms and require to be defined and named.

* The length of the pelvis, so far as can be seen from our collections, in *caspica* is less, in *grænlandica* and in the subfossil skeleton more than 90 per cent. of the length of the tibia.

† The least breadth of the first metatarsal in *caspica* is less, in *grænlandica* and in the subfossil skeleton more than 13 per cent. of its length, and the least thickness of the same bone in *caspica* is less, in the subfossil skeleton and in *grænlandica* more than 12 per cent. of its length. The breadth of the distal end of the fifth metatarsal in *caspica* is less than 19 per cent., in the other two more than 20 per cent. of its length; the least breadth of the same bone in the former is less, in the two latter more, than 15 per cent., and the least thickness in the former is less, in the two latter more, than 12 per cent. of its length. As to the first phalanx of the first digit, the breadth at the middle of the length of the diaphysis in *caspica* is less, in *grænlandica* and in the subfossil skeleton more, than 14 per cent.; the thickness at the same point in the former is less, in the two latter more, than 9 per cent. of the length of the bone. The first phalanx of the fifth digit has the breadth at the middle of the length of the diaphysis in *caspica* less, in *grænlandica* and in the subfossil skeleton more, than 14 per cent.; and the thickness at the same point in the former less than 11 per cent., in the two latter more than 12 per cent. of the length of the bone.

Hewitson described his *Lycænesthes liodes* from a specimen in his collection obtained from the Gaboon by Rogers; this specimen, excepting for the narrowness of the bands on the under surface, corresponds pretty closely with a single male in the Museum series from Zomba, but is certainly distinct from the South-African species which usually represents it in collections; oddly enough, Prof. Aurivillius neither gives Gaboon nor Nyasaland as localities of Hewitson's species, but appears to believe it to be strictly confined to South Africa and Madagascar. Three species occur in Nyasaland—*L. liodes*, the South-African species, and an allied form with very elongated secondaries (of which we only possess one imperfect female).

The ground-tint of brown in typical *C. liodes* is more golden bronze than in the southern insect, the markings below are browner; in the primaries *the belt across the disk is broken up into three subparallel and nearly equal divisions which are placed angle to angle*, whereas in the southern species the two upper divisions are united into a continuous sub-angulated band; below the costal vein towards the base of the secondaries is a well-defined black spot with white margin, and in the Zomba male the first division of the discal band is nearly black; in the southern insect there are no black costal spots. As a matter of fact the true *L. liodes* is quite as close, if not closer, to typical *L. adherbal* (*Hewitsoni*, Auriv.) from the West Coast than to the South-African insect. My *L. adherbal* is the eastern representative of the species, and will retain Trimen's name of *L. lunulata*.

The *L. liodes* of Trimen and others thus requires a name, and may be called *L. definita* from the very dark discocellular and discal markings on the upper surface of the females; we have it from the Cape, Grahamstown, Estcourt, Karkloof, Tugela, Nyasa, and Machakos.

Somewhat allied to the latter, but perhaps quite as much so to *L. larydas*, is a fifth species which I found mixed up with *L. liodes*:—

Lycænesthes Crawshayi, sp. n.

Above bronzy brown with a faint lilac gloss; outer margin narrowly rufous brown; fringe pale brassy brown, the tails and fringe on inner border of secondaries pure white; on the under surface the pattern agrees pretty closely with that of *L. larydas*, but is altogether weaker, greyer, and without black blotches; the ocellated spots have a broader orange zone, but are only sprinkled externally with green metallic scales. The female is generally more ashy and less promi-

nently varied with white, but shows the dark under-surface markings more distinctly than in that sex of *L. larydas*; the ground-colour below is of a pearl-ash tint, rendering the darker markings less prominent than in the allied species.

Expanse of wings, ♂ 28, ♀ 31 millim.

Nyasaland (*Johnston & Dewar*).

Lycænesthes amboinensis, sp. n.

The male nearly approaches *L. emolus*, but is of a more satiny lavender colour, with the usual slender blackish marginal line; the secondaries with a slender greyish submarginal line, preceded by black spots, linear towards apex, but increasing to good-sized spots towards the anal angle: on the under surface the pattern scarcely differs from that of *L. emolus*, but the white edges to the bands are clearer, rendering them more prominent, the submarginal spots on the secondaries are all blackish, and the orange extends into the lunate markings on each side of the largest spot.

Expanse of wings 37 millim.

The female (of which there is an example in the Hewitson series) much resembles a very large *L. Turneri*, but the secondaries are altogether greyer, much less tinted with lavender, the borders of the dark brown submarginal spots being white bounded behind by a brown and then a macular white band: on the under surface the wings are rather more varied with white than in the male, and the outer bands are more sharply defined.

Expanse of wings 37 millim.

Amboina (*J. J. Walker* and *A. R. Wallace*).

This is a larger species than *L. lycænoides* from the same island, and differs in its lavender (not lilac) colour, more satiny gloss, the continuous submarginal black spots followed by a greyish (not white) line on the secondaries, and the better defined and much more regular markings on the under surface. A male in the Hewitson collection from Ceram appears to be referable to *Felder's* species.

Lycænesthes violacea, sp. n.

♂. Satiny violet above, with black marginal line and brown fringe, the base dark, almost black in the secondaries, which also bear a submarginal series of sharply defined black spots, conical towards anal angle; thorax clothed with ashy hairs: on the under surface the pattern nearly resembles that of *L. emolus*, but the secondaries are a little more suffused with silvery blue at the base of the abdominal fold, and the

submarginal spots between the tails are all surmounted by deep orange Λ -shaped caps; only the spot on the inferior median interspace is intensely black, all the others are brown.

Expanse of wings 32 millim.

St. Agnan Island, Louisiades (*A. S. Meek*).

Lycænesthes aruana, sp. n.

♂. Very like a large *L. emolus* on both surfaces, but the secondaries above with well-defined black submarginal spots as in *L. amboinensis*: on the under surface the orange-bordered spot of the secondaries is much larger than in *L. emolus*, but otherwise the markings are extremely similar.

Expanse of wings 36 millim.

♀. This sex may be distinguished at a glance from the female of *L. emolus* by the possession of a large white patch on the upper surface of the primaries as in *Philiris intensa* from the same island: under surface generally whiter than *L. emolus*, but otherwise similar.

Expanse of wings 36 millim.

♂, Aru (*Wallace*): B. M. ♀, coll. Hewitson.

XXXVII.—*On a Collection of Mantidæ from the Transvaal &c. formed by Mr. W. L. Distant.* By W. F. KIRBY, F.L.S., F.E.S., &c.

MOST of the species enumerated in the following list were collected by Mr. Distant in the Transvaal and by Mr. P. Rendall in Nyasaland; a few, however, are from other localities. The Mantidæ are conspicuous insects and fairly well known, and therefore the proportion of new species is not large. There are, however, several quite common species about which much ambiguity exists, owing to the typical specimens not having been figured, and to the omission of important characters in the descriptions.

The collection includes thirty-two species.

ORTHOPTERA.

Mantidæ.

EREMIAPHILINÆ.

Chiropus, Sauss.

1. *insidiator*, Wood-Mason.

2. *maura*, Stål.

Tarachodes, Burm.

3. *perløides*, Burm.

Pyrgomantis, Gerst.

4. *singularis*, Gerst.

Lygdamia.

5. *capitata*, Sauss.

6. *lenticularis*, Sauss.